OF SCIENCE AND TECHNOLOGY (SHRI BHUVNESH CHATURVEDI): (a) and (b) An incident had come to light wherein an Ex-Pool Officer namely, Dr. A. K. Deoari committed an irregularity inasmuch as he proceeded to Australia to avail himself of a Clinical Fellowship without informing CSIR and without tendering his resignation as required under the relevant rules. Even on his return to India, the said Pool Officer suppressed this vital fact and instead requested sanction of leave on the ground of family circumstances. Dr. Meharban Singh Head, Paediatric Department, AIIMS who was guiding Dr. A. K. Deorari in his work during his Pool Officership was also alleged to have helped Dr. Deorari in this act of irregularity.

(c) and (d) Since AIIMS had instituted an inquiry into the incident, CSIR did not conduct any inquiry separately in the matter, Nevertheless, keeping in view the seriousness of the matter, CSIR debarred Dr. Meharban Singh, Head of the Paediatric Department of AIIMS from guiding Pool Officers and no Pool Officer is presently being guided by him. The matter had also been taken up for refund of Rs. 43,689|- representing the overpayment of salary drawn by Dr. Deorari.

Seismographic laboratories

2444. SHRI K. M. KHAN: Will the PRIME MINISTER be pleased to state:

(a) whether Seismographic laboratories have been set up at some places in the country;

(b) if so, the details of their locations State and Union Territory-wise, with function of each laboratory;

(c) whether these laboratories have made any studies to indicate which areas of country are prone to earthquake very often;

(d) if so, the details thereof and what are the steps proposed to be taken to make these laboratories sophisticated;

(e) whether Government also ask these laboratories to make studies and researches more in the field to give advance intimation about earthquake tremors; and

(f) if so. the details thereof and if not, the reasons therefor?

THE MINISTER OF STATE IN THE PRIME MINISTER's OFFICE AND MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY, SPACE AND MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BHUVNESH CHATURVEDI): (a) Yes, Sir.

(b) India Meteorological Department operates the National Network of 37 seismological observatories spread over different parts of the country. The State|Territory-wise list of these observatories is as follows:— Assam (1) Andaman and Nicobar Islands (1), Andhra Pradesh (1), Bihar (2), Delhi (1), Gujarat (1), Goa (1), Himachal Pradesh (2), Jammu and Kashmir (2), Kerala (1), Karnataka (1), Laccadive & Minicoy Islands (1), Maharashtra (6), Madhya Pradesh (2), Meghalaya (2), Manipur (1), Nepal (1), Rajasthan (1), Tripura (1), Tamil Nadu (2), Uttar Pradesh (5) and West Bengal (1). In addition to the above IMD has established 16 other observatories to cater to some specialised projects. The Department of Science & Technology has set up a network of 39 seismic stations in the North-West Himalaya under its Himalayan Seismicity Programme. Also 3 Strong Motion Arrays of about 50 instruments each at Kangra, Garhwal (Himalaya) and North-West region are operational under this programme. Other organisations like National Geophysical Research Institute, Hyderabad; Bhaba Atomic Research Centre, Bombay and different river

valley projects have also set up local seismic networks for specifc research and application requirements.

(c) and (d) Yes Sir. On the basis of data of the past earthquakes and geological factors, the Bureau of India Standards has published a seismic zoning map (IS: 1893-1984) dividing the country into five zones. Zone V is the most vulnerable to earthquakes while zone I is the least prone. Zone V covers areas in Jammu & Kashmir, Himachal Pradesh, U.P. Hills, Rann of Kutch, North Bihar, entire NE Region and Andaman & Nicobar Islands. Zone IV largely covers the states of Jammu and Kashmir, Punjab, Haryana, Himachal Pradesh, State of the Capital Region of Delhi, North U.P., Bihar, West Bengal, Sikkim, Parts o Rajasthan, Gujarat and Maharashtra. Rest of the country falls under seismic zones III, II and I which are comparatevely less seismic. As per practice, the seismic zoning map is periodically updated. The seismic observatories are upgraded on continuing basis.

A specific project has been evolved for upgradation and expansion of seismic observatories for which World Bank has indicated its support.

(e) and (f) The earthquake data collected by the seimological observatories is used for scientific studies. Research is continuing to understand the mechansm of earthquakes. However, presently there is no technology available anywhere in the world to predict earthquakes in time, space and magnitude with reasonable degree of accuracy.

Use of garlic in pest control

2445. SHRI KRISHAN LAL SHARMA: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that according to a study conducted by Council of Scientific and Industrial Research, garlic, used as preservative and for flavouring, can also be used in pest control management;

(b) whether it is also a fact that the use of garlic in pest control is likely to reduce the use of hazardous chemicals used in spraying on crops; and

(c) if so, whether Government have drawn any plan to popularise the use of garlic in pest control and reduce dependence on imported chemicals used in spraying; and if so, the details thereof?

THE MINISTER OF STATE IN THE PRIME MINISTER's OFFICE AND MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY, SPACE AND MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BHUVNESH CHATURVEDI): (a) and (b) No uuch study has been conducted by CSIR. However, antibacterial effect of Garlic reported by BARC, Bombay, Loyola College, Madras, Central Rice Research, Institute, Cuttack and Tamil Nadu Agricultural University, Madurai indicate that Garlic can be used for control of house flies, mosquitoes, insect pests of cotton and stored grains. Violatile fraction of Garlic oil, both natural and synthetic, have proved to be effectice in controlling paddy moth, pulses beetle, khapra beetle (for stored wheat grain) and rice moth.

(c) Techno-economic feasibility of such plans need to be gone into thoroughly before embarking upon the proposed substitution.

Bio-village development Project

2446. SHRI RAHASBIHARI BARIK: Will the PRIME MINISTER be pleased to state:

(a) whether Government are implementing "Bio-Village Development Projects";

(b) if so, the States or Union Territories where these projects are being implemented;